NATIONAL CANCER INSTITUTE

# NCI Cancer Bulletin

*Eliminating the Suffering and Death Due to Cancer*

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**In this issue:**



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## Mortality Risks Decline for Patients in Phase I Cancer Drug Trials

The risk of death related to treatment for cancer patients participating in phase I clinical trials has decreased over the past 12 years, according to a study published in the November 3 *Journal of the American Medical Association* (*JAMA*). Dr. Thomas G. Roberts, Jr., of Massachusetts General Hospital and Harvard Medical School and his colleagues analyzed data from abstracts and journal articles reporting early trial results originally submitted to annual meetings of the American Society of Clinical Oncology (ASCO) from 1991–2002.

The researchers reviewed data from 213 studies involving 6,474 cancer patients. The overall toxic (treatment-related) death rate was 0.54 percent; treatment-related death rates decreased over the study period from 1.1 percent over the first 4 years to 0.06 percent over the last 4 years. After adjusting for the characteristics of the experimental trials and investigational agents, the chances of a patient dying from an experimental treatment while participating in a trial in the last 4 years of the study period were less than one-tenth those of a patient participating in a trial during the first 4 years.

"This is an encouraging finding," said Dr. James Doroshow, director of NCI's Division of Cancer Treatment and Diagnosis and chair of the National Cancer Institute (NCI) Clinical Trials

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*Director's Update*

## *Improving the Efficacy of Pediatric Cancer Trials*

One of the most challenging aspects of conducting clinical trials in pediatric populations is making decisions about which of the many new anticancer agents under development to test. Although treatment of childhood cancers is one of the most remarkable success stories in all of medicine—nearly 80 percent of children diagnosed with cancer survive 5 years or more—if we are to expand on that progress and ensure that every child who develops cancer has a legitimate chance of survival, we must address this issue.

That's why I am so enthusiastic about a new, first-of-its-kind program being launched by NCI: the Pediatric Preclinical Testing Program (PPTP). This program will systematically test

| Research site | Lead investigator |
|---|---|
| St. Jude Children's Research Hospital | Dr. Peter Houghton |
| Children's Hospital of Philadelphia | Dr. John Maris |
| Albert Einstein College of Medicine | Dr. Richard Gorlick |
| Duke University Medical Center | Dr. Henry Friedman |
| Children's Hospital of Los Angeles | Dr. Patrick Reynolds |
| Children's Cancer Institute Australia | Dr. Richard Lock |

*(continued on page 2)*

*(Mortality Risks Decline continued from page 1)*
Working Group. "Almost half of the trials involved molecular targeted agents—another indicator of the potential of targeted therapies to improve outcomes while reducing the often debilitating toxicities of cancer treatment."

Phase I clinical trials represent the first tests of new investigational agents in humans. They are designed to evaluate an agent's safety, tolerability, and toxicity and determine doses and schedules appropriate for testing in phase II trials. A second goal of phase I trials is often to assess any therapeutic value gained from the agents being tested. This can be difficult in cancer trials because, unlike phase I trials in other areas of medicine that recruit healthy patients, phase I cancer trials generally enroll patients who have exhausted standard treatment options. The article notes the possibility that "patients with advanced cancer would accept higher risk if it were accompanied by higher likelihood of response." In this study, researchers found that the response rate declined during the 12-year study period—from 6.2 percent in the first 4-year period to 2.6 percent in the second 4-year period to 2.5 percent in the third 4-year period.

"Our principal finding—that phase I cancer trials appear to be safer, coincident with declining response rates—has important policy implications. A patient with cancer who is considering enrollment in the types of trials we analyzed may expect an improved level of safety compared with that expected by a patient enrolling just 10 years ago," the authors wrote. "Future work should focus on applying new phase I designs that would treat fewer patients at subtherapeutic drug levels, especially for trials testing targeted agents with little expectation of toxicity," they concluded.

"The study by Roberts et al., is a timely reminder that investigators should be innovative in designing phase 1 studies," wrote Drs. Eric X. Chen and Ian F. Tannock of Princess Margaret Hospital and the University of Toronto in an editorial in *JAMA*. Phase I studies, they continued, especially those involving targeted agents, should incorporate endpoints based on target expression, pharmacokinetics, and functional imaging.

"The appropriate dose for a molecular targeted agent is not necessarily the highest tolerated; it is the dose that effectively inhibits the molecular target in tumor cells," they wrote. "Unfortunately, recent reviews indicate that the majority of phase 1 studies continue to use traditional study designs, and toxicity remains the primary outcome measure for determining the recommended phase II dose." ◆

*(Director's Update continued from page 1)*
10–15 agents or combinations of agents annually in preclinical models of common childhood cancers. The program's goal is to generate the kind of information that will allow pediatric oncology researchers to make educated, reliable decisions on which new agents should be tested in children with specific cancers. This is critically important because only a limited number of clinical trials can be conducted for any given type of childhood cancer. If we are to provide more effective treatments for pediatric cancer patients, we must test the agents with the best chance of success.

The PPTP, which will begin testing its first set of agents in early 2005, is supported by an NCI research contract with St. Jude Children's Research Hospital (SJCRH), with Dr. Peter Houghton as the principal investigator. Testing will occur at SJCRH and other sites with expertise in specific childhood cancers (see box). Dr. Malcolm Smith, of the Cancer Therapy Evaluation Program, is the NCI project officer.

The PPTP will build on the impressive work to date by Dr. Houghton demonstrating the great potential of pediatric preclinical drug testing. For example, Dr. Houghton and colleagues found that topoisomerase I inhibitors such as topotecan and irinotecan were active against xenograft mouse models of neuroblastoma and rhabdomyosarcoma, especially when treatment schedules that allowed for prolonged agent exposure were used. Subsequent clinical trials modeled on these studies showed that both topotecan and irinotecan are active in children with rhabdomyosarcoma and neuroblastoma. More recent xenograft studies by Dr. Houghton showed that combinations of topoisomerase I inhibitors with standard agents like vincristine and temozolomide are particularly active, and clinical trials building on these observations are ongoing.

Through the PPTP, similar preclinical studies will be conducted using a broad spectrum of anticancer agents, with an initial focus on molecularly targeted agents that are being studied in adults with cancer. Importantly, the predictive capabilities of the PPTP's childhood cancer panels will be evaluated by comparing PPTP study results with the clinical activity of the tested agents in children, taking into account any differences between the pharmacokinetic profile of the agents in the animal models and in children.

Finally, NCI will sponsor a workshop next year to discuss opportunities for public-private partnerships to identify molecular targets specific to childhood cancers and build on the advances already made in developing targeted therapeutics.

All of us in the cancer community have heard uplifting stories of childhood cancer survivors and anguishing stories of those who did not share in this progress. Hopefully, this program will help ensure that no child will ever suffer or die from cancer. ◆

*Dr. Andrew C. von Eschenbach*
*Director, National Cancer Institute*

# Cancer Research Highlights

## New Drug Combo Increases Apoptosis in NSCLC Cells

Insulin-like growth factors that help cancer cells resist chemotherapy and radiation can be blocked by insulin-like growth factor binding protein-3 (IGFBP-3), but it is believed that the Ras gene, which plays a role in cell growth and differentiation, eventually makes IGFBP-3 less effective. Dr. Ho-Young Lee of M.D. Anderson Cancer Center and colleagues tested whether a combination of both IGFBP-3 and SCH66336, a Ras-blocking agent, increased apoptosis in non-small-cell lung cancer (NSCLC) cells. Study results are published in the October 20 *Journal of the National Cancer Institute*.

The research was conducted both *in vitro* and *in vivo*, in mice, with normal human bronchial epithelial cells as a control. Results showed that for both *in vitro* and *in vivo*, the combination of IGFBP-3 and SCH66336 synergistically increased apoptosis while also decreasing the proteins that block apoptosis. After 16 days in the *in vivo* model, mice that received the combination had tumors that were less than half the size of those that did not, suggesting that the combination of these agents has the potential for being an effective therapy for NSCLC. The authors speculate that a possible mechanism for this effect could be decreased stability of Akt, a protein that affects Ras, and note that suppression of Akt and its complement, PI3K, may be necessary when designing future IGFBP-3 therapies.

## Preoperative Chemoradiotherapy for Rectal Cancer

Compared with postoperative chemoradiotherapy, which is the standard treatment for patients with locally advanced rectal cancer, preoperative chemoradiotherapy improves local control of the disease and reduces toxicity, according to a study published in the October 21 *New England Journal of Medicine*. The study was sponsored by Deutsche Krebshilfe, a German nonprofit organization.

Between 1994 and 2002, 823 rectal cancer patients from 26 European hospitals were randomly assigned to either preoperative or postoperative chemoradiotherapy. Study endpoints, including overall survival, acute and long-term toxic effects of treatment, local and distant disease recurrence, and sphincter preservation, were measured at a median follow-up time of nearly 46 months.

At follow-up, only 25 percent of patients in the preoperative group showed metastasis to the lymph nodes, compared with 40 percent of patients in the postoperative group. Scientists also reported statistically better sphincter preservation in the preoperative group, as well as lower overall rates of acute and long-term toxic effects. There were no significant differences, however, in 5-year survival rates between the two groups.

The authors note that although no survival benefit was observed, "preoperative chemoradiotherapy is the preferred treatment for patients with locally advanced rectal cancer, given that it's associated with…an improved rate of local control, reduced toxicity, and an increased rate of sphincter preservation in patients with low-lying tumors."

## Melanin Could Be Target For Melanoma Treatment

Radiolabeled antibodies targeting the skin pigment molecule melanin have been shown to be effective in treating melanoma tumors in mice, according to a paper in the October 12 *Proceedings of the National Academy of Sciences*. In addition, the research team, from Albert Einstein College of Medicine and Cornell University, found that this approach, known as immunoradiotherapy, spared healthy tissue surrounding cancer sites, delivering radiation only to melanoma tumors.

The research team created a melanin antibody from the fungus *C. neoformans* and labeled it with rhenium. They found that the antibody attached to several types of cells from various mouse melanoma cell lines. When the radioactive antibody was administered to mice with melanoma, it inhibited their tumor growth and prolonged their survival. The mice that received treatment showed no kidney damage, nor did they show histological evidence of radiation damage to the skin, hair follicles, or eyes.

The authors note that although melanin exists in both cancerous and healthy cells, this strategy is effective because melanin in normal cells is relatively shielded from the radiolabeled antibodies, whereas the rapid turnover and lysis of cancerous cells releases melanin into the surrounding extracellular space, where it becomes more accessible to treatment. Furthermore, melanin has become a good candidate for therapy because of its ability to accumulate and remain in targeted tissues for longer periods of time compared with other traditional tumor antigens. ◆

# Community Update

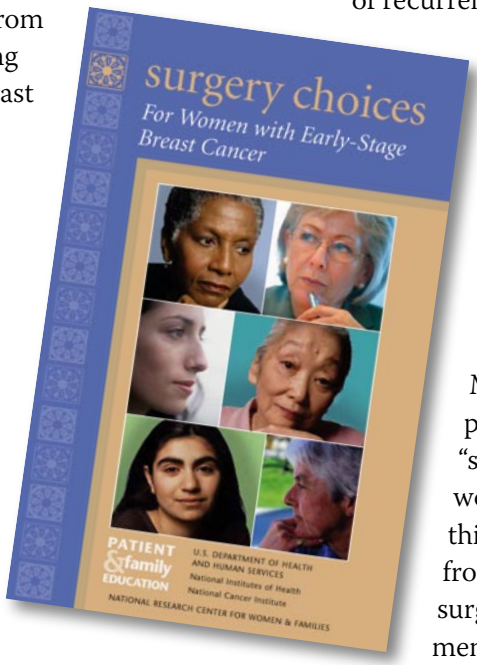
## New Booklet Helps Women Make Decisions About Breast Surgery

Treatment for early-stage breast cancer usually includes radiation therapy followed by either partial or complete removal of the affected breast or breasts. Many women do not understand the repercussions of these surgeries and many are not aware that survival rates are virtually equal for both types of surgery. Perhaps that's why more than one-third of these women do not decide, and instead defer to their physician to choose the surgical procedure. Nearly half end up choosing mastectomy (complete breast removal) over lumpectomy (breast-conserving surgery), the latter of which removes only the cancerous tissue within the affected breast.

To help women weigh the pros and cons of their surgical options and take a more active role in their breast cancer treatment, NCI's Office of Education and Special Initiatives (OESI) has produced the booklet, *Surgery Choices for Women with Early-Stage Breast Cancer*. The booklet was developed by a partnership of several federal agencies, including the Agency for Healthcare Research and Quality (AHRQ), NCI's Office of Women's Health, NIH's Office of Research on Women's Health, and the Department of Health and Human Services, as well with the nonfederal National Research Center for Women & Families.

"Research indicates that, when faced with a diagnosis of breast cancer and the need to make critical life-impacting decisions, even the most educated patient would rather receive information that is brief yet thorough and extremely clear," said Leonora Johnson, OESI director.

The development of the 24-page booklet began with a technical report from a scientific meeting on early-stage breast cancer treatment, sponsored by AHRQ and NCI. The final product, which is written in easy-to-understand language, was reviewed and edited by the Food and Drug Administration (FDA) and pilot tested with women in Denver, Baltimore, and selected rural areas of the country. A unique feature of the booklet is the "Compare Your Choices" chart, which helps patients compare surgery options. The chart includes information on surgery side effects, additional treatments, and the chance of cancer recurrence for each surgery type.




"*Surgery Choices for Women with Early-Stage Breast Cancer* was not developed to discourage women from choosing mastectomy or to encourage them toward lumpectomy," noted Ms. Johnson. "Rather, it gives an overview of early-stage breast cancer, with a balanced description of breast-sparing surgical options, including lumpectomy, partial mastectomy, and segmental mastectomy; full-breast removal options, including total mastectomy, modified radical mastectomy, and double mastectomy; and reconstructive breast surgery, including breast implants and tissue flap surgery.

"It's clear that many women don't realize that they may have a choice between types of mastectomy or breast-sparing surgery without compromising their treatment outcome, length of survival, or chance of recurrence," said Dr. Rosaly Correa-de-Araujo, AHRQ's senior advisor on women's health. "It's critical that we make this resource available to women with early-stage breast cancer."

Ms. Johnson also pointed out that "studies suggest that women prefer to get this kind of resource from their physician, surgeon, or other treatment team member in a setting where their options can be further discussed and explained. For this reason, we're developing a complementary product that can be used in consultations between women and their doctors."

*Surgery Choices for Women with Early-Stage Breast Cancer* can be viewed online at http://cancer.gov/cancertopics/breast-cancer-surgery-choices. To order free copies of the booklet, call 1-800-4-CANCER or visit www.cancer.gov/publications. Promotional materials for the booklet are available at www.ncipoet.org. ◆

# Funding Opportunities

**Research on the Economics of Diet, Activity, and Energy Balance**

PA-05-009
Application Receipt Dates: Jan. 10, May 10, and Sept. 10, 2005; Jan. 10, May 10, and Sept. 10, 2006; Jan. 10, May 10, and Sept. 10, 2007

The major focus of the Program Announcement (PA) is to solicit projects that enhance the state of the science on the causes of obesity and to inform federal decision making on effective public health interventions for reducing the rate of obesity in the United States. Research strategies that nest economic analysis within a broader interdisciplinary context of other social and behavioral sciences as well as the epidemiological, biostatistical, medical, and biological disciplines relevant to public health policy are especially encouraged. This PA is intended to make funding opportunities in the area of energy balance (i.e., the relationship between diet, physical activity, and obesity) known to researchers with expertise and experience in health economics and health services research who might otherwise not be aware of the opportunity to apply these disciplines to this area.

This PA will use the NIH exploratory/development (R21) award mechanism and the NIH investigator-initiated research project grants (R01) award mechanism(s).

For more information see: http://cri.nci.nih.gov/4abst.cfm?initiativeparfa_id=2380

Inquiries: Dr. Martin L. Brown—mb53o@nih.gov

**Site-Specific Approaches to Prevention or Management of Pediatric Obesity**

RFA-DK-04-013
Letter of Intent Receipt Date: Dec. 23, 2004
Application Receipt Date: Jan. 24, 2005

The purpose of this RFA is to encourage the development and empirical testing of intervention approaches to prevent or manage overweight in children and adolescents: capitalizing on the strengths of various sites in which such interventions can be delivered. It is anticipated that responsive applications will generally be in the form of clinical trials. This RFA targets interventions that focus on behavioral or environmental modifications either individually or in combination. Applications that examine approaches across two or more sites are encouraged. Research applications that include the home/family as a site are especially encouraged. The goal is to test strategies that will foster energy balance to prevent inappropriate weight gain in children who are not overweight, to achieve age-appropriate body weight in those at risk of becoming overweight, or to reduce the degree of overweight in those who are already overweight.

This funding opportunity will use the NIH Research Project Grant (R01) and Exploratory/Developmental Grant (R21) award mechanism(s).

For more information see: http://cri.nci.nih.gov/4abst.cfm?initiativeparfa_id=2400

Inquiries: Dr. Amy Lazarus Yaroch—yarocha@mail.nih.gov

**International Cooperative Biodiversity Groups (ICBG)**

RFA-TW-04-004
Letter of Intent Receipt Date: Jan. 18, 2005
Application Receipt Date: Feb. 15, 2005

The NIH, NSF, and USDA invite applications for the establishment of "International Cooperative Biodiversity Groups" to address the interdependent issues of biodiversity conservation, economic capacity, and human health through discovery and development of therapeutic agents for diseases of importance in developing countries, as well as those important to developed countries. An innovative and integrated approach to access genetic resources and benefit-sharing with host country stakeholders and participants is an important component of the overall program. Applicants are encouraged to consider marine coral reef organisms and new sources of previously unexplored or underexplored microorganisms, including those arising from symbiosis, extreme environments such as thermovents, and deep sea microbes. Applications that propose to work primarily with plants for pharmaceutical drug discovery are encouraged to propose research and training related to phytomedicine analysis.

This RFA will use the NIH U01 award mechanism (Cooperative Agreement).

For more information see http://cri.nci.nih.gov/4abst.cfm?initiativeparfa_id=2401

Inquiries: Dr. Joshua Rosenthal—rosenthj@mail.nih.gov ◆

# FDA Update

## FDA Approves Letrozole for Treatment of Early-Stage Breast Cancer

The FDA last week approved letrozole (Femara) for extended adjuvant treatment of early-stage breast cancer in postmenopausal women treated with tamoxifen for 5 years. The FDA gave the okay for letrozole under an "accelerated approval," requiring the drug's manufacturer, Novartis, to conduct and provide data to the FDA on long-term outcomes.

The approval was based on results from the MA-17 trial, a double-blind, multicenter, international clinical study involving nearly 5,200 postmenopausal women with hormone receptor-positive, early-stage breast cancer who had received 5 years of adjuvant tamoxifen therapy. All of the participants were within 3 months of completion of adjuvant therapy with tamoxifen and were randomly assigned to receive 5 years of letrozole or placebo. The Canadian Cancer Society funded MA-17, which was coordinated by the National Cancer Institute of Canada in partnership with the NCI Clinical Trials Cooperative Groups.

An updated analysis of data from MA-17—originally published in November 2003—was presented at ASCO's annual meeting in June. With a median follow-up of 2.5 years, letrozole reduced local and distant recurrences of cancer and new breast cancers, regardless of a patient's node-positive or -negative status at diagnosis. Distant metastases were reduced by about 40 percent compared with placebo, while overall survival was improved by 39 percent for node-positive patients. ◆

# Featured Clinical Trial

## Vaccine to Prevent Cervical Cancer

**Name of the Trial**

Phase II Randomized Study of SGN-00101 Vaccine in Human Papillomavirus-16-Positive Patients with Atypical Squamous Cells of Undetermined Significance or Low-Grade Squamous Intraepithelial Lesions of the Cervix (UCIRVINE-02-55). See the protocol summary at http://cancer.gov/clinicaltrials/UCIRVINE-02-55.

**Principal Investigators**

Dr. Bradley J. Monk, University of California, Irvine, and Dr. Dorothy J. Wiley, University of California, Los Angeles

*Principal Investigators Dr. Bradley J. Monk and Dr. Dorothy J. Wiley*

**Why Is This Trial Important?**

Cervical cancer strikes about 15,000 American women each year. Cervical cancer starts in cells that form the surface of the cervix (squamous epithelium). Certain changes in these cells are often detected by Pap testing, where early and minor effects associated with human papillomavirus (HPV) infection show up as low-grade squamous intraepithelial lesions (LSIL) or atypical squamous cells of undetermined significance (ASCUS). These abnormalities may be early precursors of cervical cancer.

Some types of HPV are associated with cervical cancer more often than others; for example, HPV-Type 16 (HPV-16) is found in half of cervical cancers worldwide. In this study, researchers are testing a vaccine in women infected with HPV-16 who have cell changes associated with HPV infection (LSIL or ASCUS). The goal is to determine whether the vaccine will help develop the appropriate immune response to resolve these low-grade cervical cell changes and clear the viral infection.

"About 25 percent of women with LSIL and 5 percent of women with ASCUS are infected with HPV-16, so we will need to screen approximately 2,600 women to find the 140 who will go on to be part of the vaccine portion of the study," said Dr. Wiley.

**Who Can Join This Trial?**

Researchers seek to enroll approximately 140 patients aged 18 to 50 who have Pap tests showing ASCUS or LSIL. See the list of eligibility criteria at http://cancer.gov/clinicaltrials/UCIRVINE-02-55.

**Where Is This Trial Taking Place?**

The study is being conducted at the Chao Family Comprehensive Cancer Center at University of California, Irvine and at the University of California, Los Angeles' Jonsson Comprehensive Cancer Center.

**Who to Contact**

For more information, contact the NCI Cancer Information Service at 1-800-4-CANCER (1-800-422-6237) or you may contact the study directly at 1-310-825-0540 (UCLA) or 1-888-456-7067 (UCI). The call is confidential. ◆

An archive of "Featured Clinical Trial" columns is available at http://cancer.gov/clinicaltrials/ft-all-featured-trials.

# Notes

### Science Writer Seminar on Natural Products

The NCI press office will hold its 11th Science Writers' Seminar on Nov. 18. The seminar is one of a series intended to give science writers background on a particular area of cancer. Next month's seminar, "Natural Products for Cancer," will be held at the Natural Products Branch at NCI's Center for Cancer Research in Frederick, Md. Scientists in this branch analyze natural products from land and sea, and screen them to develop agents to prevent and treat cancer. For example, Taxol, a drug used to treat numerous cancers, was developed by NCI from the bark of the Pacific yew tree.

Participants will tour the biorepository and cancer cell line screening centers at the NCI-Frederick campus. Drs. Gordon Cragg and David Newman will explain how NCI collects the natural specimens and tests their potential as cancer treatments. Journalists can get more information about this and future seminars by contacting the NCI press office at 301-496-6641 or ncipressofficers@mail.nih.gov.

### Sporn Discusses New Agents, Approaches for Chemoprevention

Dr. Michael Sporn, professor of pharmacology and medicine at Dartmouth Medical School, delivered the CCR Grand Rounds lecture on Oct. 26. "The link between inflammation and cancer is an old idea that is experiencing a renaissance," said Dr. Sporn, noting that one means of chemoprevention is to protect cells from oxidative damage induced by inflammation. He discussed the potential of steroid-like compounds known as triterpenoids, which can block the expression of genes associated with inflammation and have also been shown to protect cells from stress damage in tissue culture and mouse models. Dr. Sporn noted that currently his group's goal is to develop an effective and easily synthesizable compound that can be offered as a consumer drug. Dr. Sporn also discussed a potential new paradigm for chemoprevention, in which patients receive treatment intermittently instead of continually, seeking to better balance efficacy and risk.

### HINTS Meeting for "Results Users" Announced

NCI's Health Information National Trends Survey (HINTS) is a biennial telephone survey designed to provide health communicators with population-based estimates of usage rates among different health communication channels. The survey also provides a platform for research into the relationship between channel usage (TV, Internet, print media) and indices of health behavior. During this year's American Public Health Association annual meeting in Washington, D.C., public health and communication practitioners are encouraged to attend a meeting on Nov. 10 at 10:00 a.m. to learn about HINTS and help NCI explore the best ways to create products that meet the need to use high-quality data in health communication planning and implementation. For additional information, go to http://www.scgcorp.com/hintsresults2004/.

### Cancer.gov Gets High Marks

The NCI Web site, www.cancer.gov, received a top score among government Web sites on the American Customer Satisfaction Index third quarter report of 2004. The NCI Web site received an online customer satisfaction score of 80 on the 100-point scale, outperforming the E-Government average score of 71.2 by a wide margin, ranking in the top 5 news/information sites, and leading the highest scoring portal site by 2 points.

NCI launched the redesigned www.cancer.gov Web site on May 26, following extensive changes to the site's navigation structure and design. The goal was to improve navigation and functionality for all users, the majority of whom are first-time visitors with an urgent need to get to the information they are seeking.

### Dr. Zujewski Named Senior CTEP Investigator

Dr. Jo Anne Zujewski has been named senior investigator in the Clinical Trials Evaluation Program (CTEP) in NCI's Division of Cancer Treatment and Diagnosis, where she will oversee CTEP breast cancer trials. Dr. Zujewski joined NCI in 1993 and has been involved with many clinical trials relating to breast cancer prevention and treatment. She was the founding chairperson of the Breast Cancer Faculty Steering Committee and has served as a member of the planning committee for the NIH Consensus Conference for the adjuvant treatment of breast cancer. She has also served as an expert medical consultant to several international initiatives in breast cancer. ◆

## CCR Grand Rounds

**November 9:** Dr. Thomas A. Waldmann, Chief, Metabolism Branch, CCR, "IL2 and IL15: Implications for Immunotherapy and the Design of Molecular Vaccines"

**November 16:** Dr. Phillip A. Dennis, Principal Investigator, Cancer Therapeutics Branch, CCR, "Targeting the Akt Pathway for the Prevention or Treatment of Lung Cancer"

CCR Grand Rounds are held 8:30 to 9:30 a.m. at the NIH campus in Bethesda, Md., in the Clinical Center's Lipsett Auditorium. ◆

# Featured Meetings

This is a list of selected scientific meetings sponsored by NCI and other organizations. For locations and times and a more complete list of scientific meetings, including NCI's weekly seminars and presentations open to the public, see the NCI Calendar of Scientific Meetings at http://calendar.cancer.gov.

## NCI Advisory Committee Upcoming Meetings

| Date | Advisory Committee |
|---|---|
| Nov. 4 | NCI Director's Consumer Liaison Group |
| Nov. 8-9 | NCI Board of Scientific Advisors |

## Selected Upcoming Meetings of Interest

| Date | Meeting | NCI Speakers |
|---|---|---|
| Nov. 4-6 | Emerging Topics in Breast Cancer and the Environment Research | Dr. Robert Croyle, Director, Division of Cancer Control and Population Sciences |
| Nov. 6-10 | 12th p53 International Workshop | Dr. J. Carl Barrett, Director, Center for Cancer Research |
| Nov. 6-10 | 132nd Annual Meeting of the American Public Health Association | Dr. Harold P. Freeman, Director, Center to Reduce Cancer Health Disparities |
| Nov. 16 | Reflections on the Causes of Health Disparities: Poverty, Culture, and Social Injustice | Dr. Harold P. Freeman, Director, Center to Reduce Cancer Health Disparities |
| Nov. 17-19 | UICC World Conference for Cancer Organisations | Dr. Andrew C. von Eschenbach, Director; Dr. Mark Clanton, Deputy Director, Cancer Care Delivery Systems |

## NCI Exhibits

NCI Exhibits are presented at various professional and society meetings. Further information about the NCI Exhibits program can be found at http://exhibits.cancer.gov.

The *NCI Cancer Bulletin* is produced by the National Cancer Institute (NCI). NCI, which was established in 1937, leads the national effort to eliminate the suffering and death due to cancer. Through basic, clinical, and population-based biomedical research and training, NCI conducts and supports research that will lead to a future in which we can identify the environmental and genetic causes of cancer, prevent cancer before it starts, identify cancers that do develop at the earliest stage, eliminate cancers through innovative treatment interventions, and biologically control those cancers that we cannot eliminate so they become manageable, chronic diseases.

For more information on cancer, call 1-800-4-CANCER or visit http://www.cancer.gov.

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